Louisiana Office of Public Health Project Firstline Quarterly Webinar

Healthcare-associated Infections & Antibiotic Resistance Program

Topic #1: How Respiratory Droplets Spread COVID-19

March 15, 2023 from 11:00 a.m. until 12:00 p.m.

Louisiana Department of Health

Office of Public Health | Infectious Disease Epidemiology Section

Healthcare-associated Infections
HAI Elimination
Louisiana

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About This Activity

1.0 CEU Activity - LSNA

Participants should expect a knowledge check survey at the end of the presentation. Participation in the entire webinar and completion of the post-activity evaluation are required. One contact hour will be awarded. Certificates will be emailed. Speakers' PowerPoint slides will be made available to participants following the presentation. Submit inquiries to Marceia.Walker@LA.gov.

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About This Activity

Disclosure Statement

None of the speakers/planners in control of content for this activity have disclosed relevant financial relationship(s) with ineligible companies.

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About This Activity

CDC Epidemiology and Laboratory Capacity Cooperative Agreement

This call is funded by a cooperative agreement with the Centers for Disease Control and Prevention (award #NU50CK000532). The Centers for Disease Control and Prevention (CDC) is an agency within the Department of Health and Human Services (HHS). The contents of this call does not necessarily represent the policy of CDC or HHS, and should not be considered an endorsement by the federal government.

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Upcoming Calls

Louisiana Office of Public Health Project Firstline Quarterly Webinars

- Topic 1: March 15, 2023 - How Respiratory Droplets Spread COVID-19
- Topic 2: June 14, 2023 - Hand Hygiene
- Topic 3: September 13, 2023 - Cleaning and Disinfection
- Topic 4: December 13, 2023 - Multi Dose Vials

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Today's Presenters

Louisiana Office of Public Health Project Firstline Coordinators

Joanne Kibiego, MA, BSN, RN - Project Firstline Coordinator, OPH Region 2

Amanda Wells, RN - Project Firstline Coordinator, OPH Region 3

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Presentation Objectives

By the end of the presentation, the learner will be able to:

- Describe one (1) characteristic of respiratory droplets.
- Understand one (1) primary way that SARS-CoV-2 moves between people.
- Explain one (1) reason why infection control actions focus on keeping respiratory droplets out of the air and away from other people.

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Respiratory Droplets: what they are and why they matter

When you see this image, what thoughts comes to your mind?

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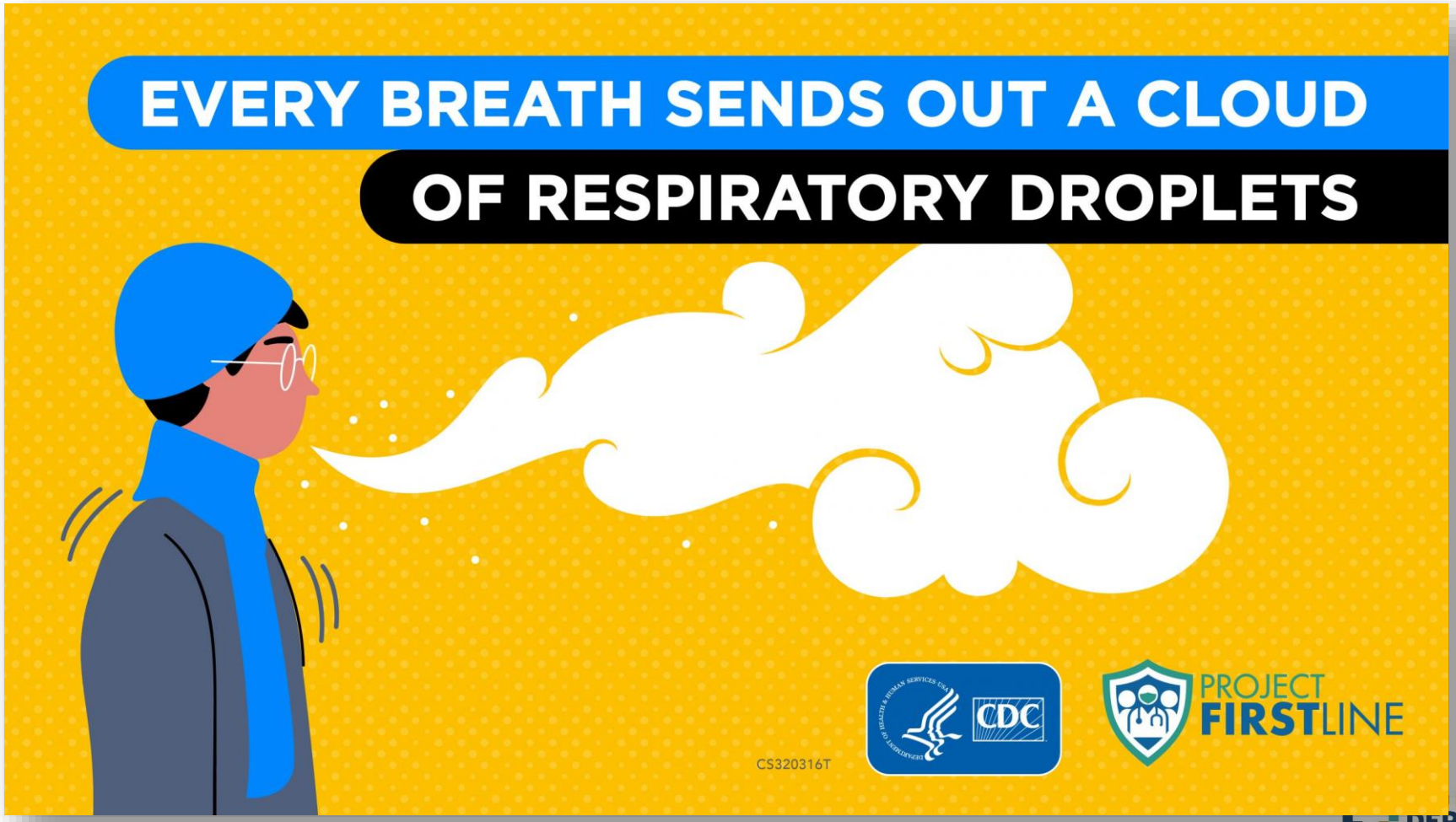
Respiratory Droplets: what they are and why they matter

- Our breath contains a lot of water that you can't usually see.
  - When we see our breath in cold air or see our glasses fog up when we're wearing a mask, what we're seeing is all the water in our breath.
  - Those are our respiratory droplets.

Respiratory Droplets: what they are and why they matter



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Respiratory Droplets: what they are and why they matter

- People release respiratory fluids during exhalation (e.g., quiet breathing, speaking, singing, exercising, coughing, sneezing) in the form of droplets across a spectrum of sizes. These droplets carry virus and transmit infection.
- The largest droplets settle out of the air rapidly, within seconds to minutes.
- The smallest very fine droplets, and aerosol particles formed when these fine droplets rapidly dry, are small enough that they can remain suspended in the air for minutes to hours.

How Respiratory Droplets Spread COVID-19

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How Respiratory Droplets Spread COVID-19

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How Respiratory Droplets Spread COVID-19

- The principal mode by which people are infected with SARS-CoV-2 (the virus that causes COVID-19) is through **exposure to respiratory fluids carrying infectious virus**.

- Infectious exposures to respiratory fluids carrying SARS-CoV-2 occur in three principal ways (not mutually exclusive):

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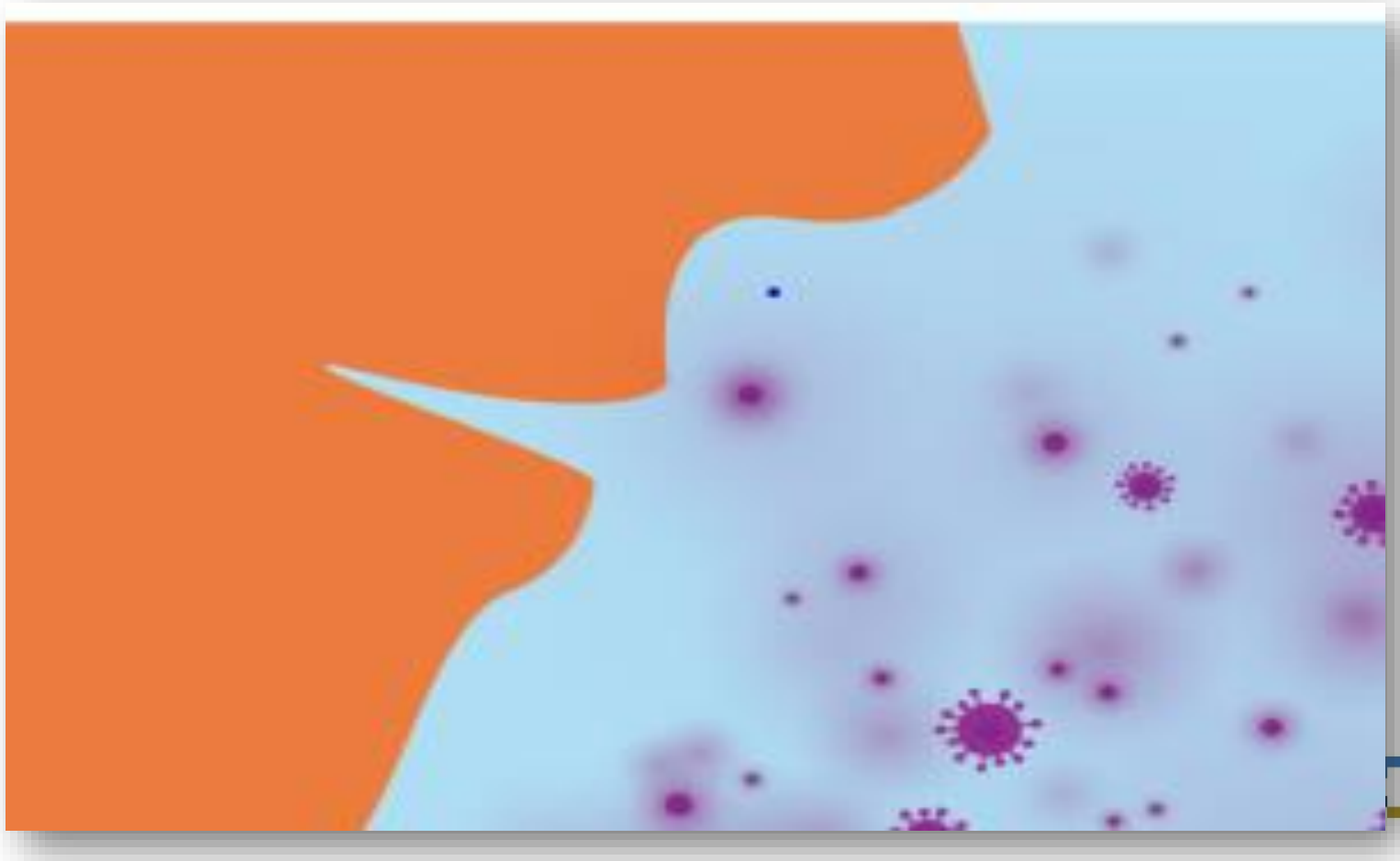
How Respiratory Droplets Spread COVID-19

1. Inhalation



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How Respiratory Droplets Spread COVID-19

2. Deposition

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How Respiratory Droplets Spread COVID-19

3. Touching

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How Respiratory Droplets Spread COVID-19

Risk of SARS-CoV-2 infection

- Once infectious droplets and particles are exhaled, they move outward from the source.
- The risk for infection decreases with increasing distance from the source and increasing time after exhalation.
- Two principal processes determine the amount of virus to which a person is exposed in the air or by touching a surface contaminated by virus:
  - Decreasing concentration of virus in the air
  - Progressive loss of viral viability and infectiousness

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Infection Control Actions

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INFECTION CONTROL PROTECTS

You

Your Coworkers

Your Patients

Your community

PROJECT FIRSTLINE
CDC's National Training Collaborative for Healthcare Infection Prevention & Control

CDC

How can we stop/slow the spread of SARS COV-2?

Transmission through soiled hands and surfaces can be prevented by:

- practicing good hand hygiene
- environmental cleaning

These methods will reduce transmission both from inhalation of virus and deposition of virus on exposed mucous membranes.

- Physical distancing
- Use of well-fitting masks (e.g., barrier face coverings, procedure/surgical masks/KN 95/N95)
- Adequate ventilation
- Avoidance of crowded indoor spaces

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Five Elements of How Germs Spread and Cause Infection

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Reservoirs

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Pathways

A Person to Infect

Getting around the Body's Defenses

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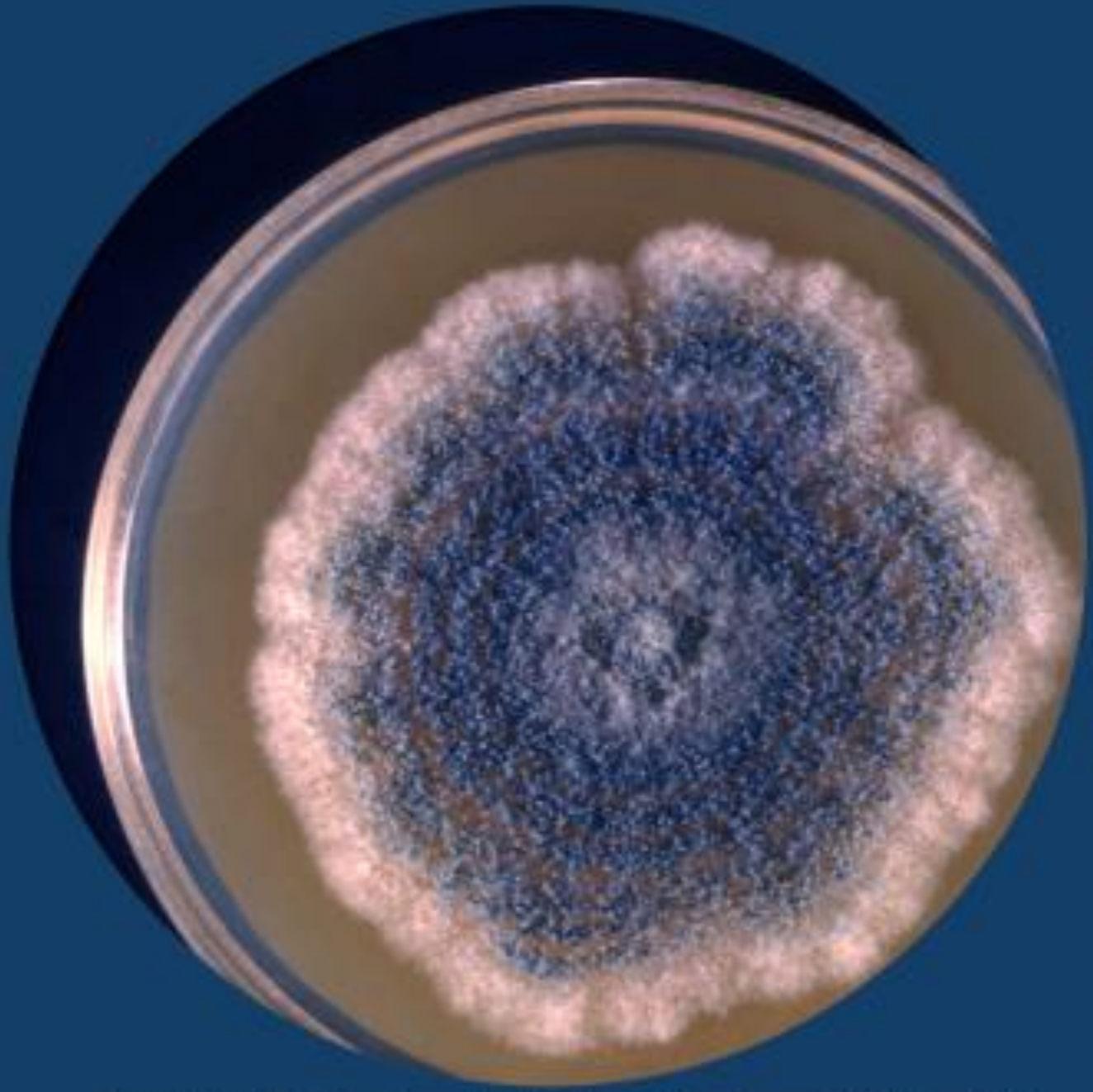
Survival



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How Germs Spread in Healthcare: Four Main Pathways

1. Through touch
2. When they're breathed in
3. Through splashes or sprays
4. Through clinical care tasks that bypass or break down the body's natural defenses

Promoting respiratory droplet transmission prevention in the workplace

Mentimeter

- What is your facility doing to keep people from breathing in each other's respiratory droplets?

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CASE STUDY:

"Our germ is strep, and our reservoir is the skin: a healthcare worker's hand. What is a pathway for the germ to be spread from the hand? Recall the five elements of how germs spread and cause infection: reservoirs, pathways, a person, a body's defenses, and survival."

Promoting respiratory droplet transmission prevention in the workplace

- Keep physical distance between people.
- Use plastic barriers.
- Schedule patient appointments to reduce the number of people who are in the facility at one time.
- Ask patients to wait for a phone call before entering the facility for their appointment.
- Reduce the number of visitors permitted.
- Limit the number of staff in offices, breakrooms, etc.
- Use separate wards, clinic rooms, etc., for people who have suspected or confirmed COVID-19.
- Increase air flow in clinic spaces to remove respiratory droplets faster.
- Use masks on everyone to prevent droplets from getting into the air.
- Use respirators like N95s to prevent people from breathing droplets.

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Recommended PPE for COVID-19

Eye Protection

Gloves & Gown

Respirator

It's NOT What You Think!

N95

MYTH: v/s FACT:

MYTH:

An N95 respirator and a surgical mask provide the same protection.

FACT:

A NIOSH-approved N95 respirator forms a seal against the user's face, preventing particle penetration around the edges. The filter has passed NIOSH tests to determine that it protects against at least 95% of airborne particles.

Because surgical masks do not seal against the face and the filters have not been tested, the same level of protection against airborne particles cannot be guaranteed.

MYTH:

I can decorate my N95 respirator to look stylish!

FACT:

Any alteration of the N95 will void the NIOSH approval because respirator can no longer be guaranteed to provide the necessary level of protection.

MYTH:

There's no way to verify if an N95 respirator is actually NIOSH-approved.

FACT:

A list of approved N95 respirators is updated every month. Find it at Knowits.niosh.gov under the "Approved Particulate Filtering Facepiece Respirators" tab.

NIOSH

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Use Your Facemask the Correct Way

DO:

- Clean your hands before you put on and take off facemask
- Make sure facemask covers your mouth and nose
- Remove facemask touching only the straps, store in paper bag

DON'T:

- Do not touch your facemask or face
- Do not wear your mask:
  - On the top of your head
  - Around your neck
  - Under your nose
- Do not store your mask on your arm or in your pocket

BE PREPARED:

It is time to prepare and have a mindset of readiness for the increase in COVID-19

- Check supplies (PPE, hand sanitizer, testing supplies, etc)
- Encourage COVID-19 Vaccinations
- Prepare your COVID-19 designated unit
- Review policies and procedures with staff
-

It is also time to prepare and have a mindset of readiness for hurricane season.

https://www.cdc.gov/infectioncontrol/projectfirstline/healthcare/training.html

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Summary

Key Messages

- **Our breath contains a lot of water that you can't usually see.**
  - When we see our breath in cold air or see our glasses fog up when we're wearing a mask, what we're seeing is all the water in our breath.
  - Those are our respiratory droplets.
- **The main way that SARS-CoV-2, the virus that causes the disease COVID-19, travels between people is through respiratory droplets.**
  - When someone is infected with SARS-CoV-2, the droplets that they breathe out have virus particles in them.
  - People who are close by can breathe the droplets in, or the droplets can land on their eyes, and they can get infected.

Reminders!

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- Certificates will be emailed.
- Speakers' PowerPoint slides will be made available to participants following the presentation.
- None of the speakers/planners in control of content for this activity have disclosed relevant financial relationship(s) with ineligible companies.
- Participants must complete a post-activity survey that will be emailed to them via Zoom directly following the presentation. Surveys must be completed by March 22, 2023.
- Submit inquiries to Marceia.Walker@la.gov.

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